



714

SEQUENCE LISTING

<110> Brock, Brian R.
Deng, Gary G.
Rubanyi, Gabor M.

<120> Novel Estrogen-Regulated G Protein Gamma Subunit:
Compositions and Methods of Use

<130> 015303-000510US

<140> US 09/803,472

<141> 2001-03-10

<150> US 60/188,460

<151> 2000-03-10

<160> 5

<170> PatentIn Ver. 2.1

<210> 1

<211> 72

<212> PRT

<213> Mus musculus

<220>

<223> Amino acid sequence of mouse G-gamma 12 protein
subunit

<400> 1

Met Ser Ser Lys Thr Ala Ser Thr Asn Ser Ile Ala Gln Ala Arg Arg
1 5 10 15

Thr Val Gln Gln Leu Arg Leu Glu Ala Ser Ile Glu Arg Ile Lys Val
20 25 30

Ser Lys Ala Ser Ala Asp Leu Met Ser Tyr Cys Glu Glu His Ala Arg
35 40 45

Ser Asp Pro Leu Leu Met Gly Ile Pro Thr Ser Glu Asn Pro Phe Lys
50 55 60

Asp Lys Lys Thr Cys Ile Ile Leu
65 70

<210> 2

<211> 4147

<212> DNA

<213> Mus musculus

<220>

<223> cDNA sequence for mouse G-gamma 12 protein
subunit, variant 1

<400> 2

ctagaattca gcggccgctg aattctaggc gacgacggcg aagagtgagt gccaaaggttc 60
atatgggaag gactttgggg tgagcatctt ctctatttcc agctggcttt tctgattttc 120
agaaagaaga ctcatacaag atgtccagca agacggcaag caccaacagc atagcccaag 180
ccaggagaac tgtgcagcag ctgagattgg aagcctccat cgaaagaata aaggtctcaa 240

aagcatcagc	agacctgatg	tcatactgtg	aggagcatgc	ccggagcgac	ccctgtctga	300
tgggcatacc	gacctcagaa	aaccggttca	aggataagaa	gacctgcac	atcttatagt	360
ggaccaggaa	gcgccccttg	cctcttaacg	caaaccacag	cagcaacctg	aagggattcc	420
ttcagcttac	ctggtaacca	cagctagtaa	ctaaaacacc	cttctctcgg	aataatagac	480
cctgaagtct	ctctttttca	agttgtcctt	tcttcacctt	ttactgattt	aatacagaat	540
aacaattctta	ttttctattt	gataactatg	gtatcatatt	gggttactgt	ataaggaaaa	600
tggcagggga	gttgtgggaa	gcttgtcttt	acaaaatata	attgattaag	atatgtcaag	660
acctacattg	tctaagcacc	ggcaaattaa	aatgtcgaga	atcacttcag	tcaaaaacct	720
ttatattctg	ttcttaataa	tgtttgtgcc	aacctatata	ccatgtaagg	gatctgggga	780
ggaggcatgt	gtctacaacc	ataccttttt	gcactatggg	cactaaccac	cctgaaaactt	840
cctgcggtag	ctccctccct	tcagagttac	atcattatcc	tgactctgtg	taggtaaatt	900
tccgtgaaat	ttttgtacaa	aaaaaaggta	atgaaagaac	gttgcaaaga	tcactctgcat	960
tataatgagt	tgatgctgtt	ctcactcctc	tcttgggaatt	gtgctggccc	cttagtctac	1020
aataaaactgt	gcacattaaa	aacctaaggc	taaaactgaa	agccctttga	tggggctctta	1080
actcatatca	gtcatttggg	cttctctgat	cctgaggcta	agaaagggga	agagaccttc	1140
aggaggcagc	ttcactcca	gggctcttga	tctctgctgg	attgggggtg	gccacctcag	1200
aaacttccac	cctcatgact	ggaatggaag	aggggacoga	gagcctcaca	atctcggaga	1260
gggaggagaa	attcttaaaa	acagctgtct	tectgcgccc	agcttcacag	gcagccctgc	1320
ccctttctcc	tcaccagcat	ggtacctgcc	cttactgcta	gagcagctgc	ttgtagaggg	1380
acattccctc	cttcccagtt	ttaactgggtg	gaccacagtg	gggggaaaaa	cattcaagcg	1440
atataaagac	acttgggctc	tttgcagatg	cctatacttc	caacactacc	atgtccacaa	1500
accaccctgg	gggagggccc	ttccaaaggg	aggcttgcta	gtttcagcgt	ctagcagttg	1560
ggtccctcact	tttactccaa	ttgtgaaaat	agcccacgta	ccctcgcagt	gtccagtagg	1620
gatcccagag	gcacataacc	agaaaaggat	tttgactttg	tcacagtgac	tattttaaatt	1680
aatctattcg	aagtccaaac	caaacacaaa	gcctgtgata	ttttagggtta	ttaaggtaac	1740
tgctaagtga	ggatttttaa	aagtgtcctc	aaaaaggact	tagccccggg	agttgtttat	1800
aaaatttccc	cgacttgtat	acagtgtgca	ctaaaagaaa	atgtatttta	atatctaattg	1860
cctgggctct	gagcgtcatg	cttcttggtg	gtaaacatgc	agtcctgttc	ctaagtgact	1920
cagaggcatc	agaattttct	cacgtttacc	atctgcttgg	cactcggaac	tgagcgtgtg	1980
aaatccatag	cgctgcccac	aacctgttct	cactgcttag	ctcccagctg	gattaaagac	2040
acctgctcag	gcgggagaga	gagagagaga	gcgagctttt	accttggaaa	aggtaaagat	2100
ggaaatgtac	accaaaaaag	acaattttta	catttaattg	aacattcttt	ttttttacaa	2160
gtatattttt	ctactgatag	tttcagaaca	ctaattcttat	attcactcta	atcttaaaca	2220
tgtttcttta	aatattttata	aggcagttta	ttacagaata	ttttcatgca	atcatgtgca	2280
cattatttgg	agcaaacata	gtatatcctt	tagtacttta	gcataatttt	gttaaaaatac	2340
ttttaattgg	aagaaatgaa	cctgaggctc	caggagggtt	tgttgccttt	tcattgatta	2400
gagacaataa	atatcttgta	acttcctaac	cagatctgag	ctgtgctcac	aataataata	2460
atgaaatcag	attctttgat	gctggactca	ggagggaat	cattagccaa	ctgttgactt	2520
acttatagct	agatgtctat	gtgagaaagt	ataatatata	tatatacaca	tatatatgac	2580
atgtaagagt	cacttttatt	tatctgtctt	tgttcactta	tgaagccggt	aactgcagca	2640
gtatgttgg	gatgtcatga	tgcacagaag	tcccatgttg	agtgtttttc	ccacactgac	2700
aacttggcct	cctttctgtg	tgttcagttc	gttgtctgaa	ctaacactcc	cgcgagcact	2760
atactcttta	tactctgatc	cccctagttc	atcttaaat	tgtctgtggc	cctggcaaga	2820
tagcgtacac	aagattccat	gactccagag	catcttgaag	aaacatacat	attttgaaa	2880
aggggaaatg	tagcagatag	ttcacaaagt	gcgggttgta	gctaaatatt	ccatttcttt	2940
gaaatcatgt	ttctaaattc	tttaccatca	gaaagaaaag	gagtgtcata	cactttcaag	3000
ggaaggcttg	gtctgcgttt	tctgtgtttg	gattattttt	atactttgct	gatcttttaag	3060
ctatccatgg	gggaaatttt	ataccaacga	gttaataatt	ctcattcatc	gtttacacaa	3120
tgtaacatgt	gtcatactgg	ggccagcgag	atggctcagt	aggtaaagg	gcttgatgct	3180
aagcccggca	gcctgtgttt	catctacagg	atgcacaaca	taaaagaaaa	gatctgatct	3240
ccacagggtc	tcttctgacc	tacacacaca	cacactaaaa	taacatttaa	aaatatgtgc	3300
caaattatat	ttgttcgggt	gccaccttcc	accagcttac	cactacgcta	gaactgtcaa	3360
attcatctcc	ctgaatttgt	cttaaaagg	tgtccatgca	caggcccaag	agtcacctcc	3420
aatgaaataa	atgtaatact	gaagtatgcc	atgatgtttg	ttgttttctt	tcactcgtaag	3480
cctgtaagca	ggaaaaatac	gtcaaatcag	atagaataga	gcatttacca	gtggtcgatg	3540
gcctggctcag	tcctgtgccc	ggtgacttag	gaccaggcac	gtcagctctc	tgagcctccc	3600
cttcccttgt	tgtcacaagg	gaatagaagc	agaagaagct	gagagcctcc	ctattcccag	3660
atgccctgg	ggaatgacct	gcctctctgc	cgtttctgcc	aacgtgttgg	tgctataagc	3720
tgcttcaaat	accagtttgt	ctgtagtgtg	tactcaccta	atcacttggt	atccagtgcc	3780
tgttctaggt	ttatggactt	aactatttct	gtgatgtttc	attttttagcc	atgttaactc	3840
ctaacacata	ttctcttatg	tctcagtaaa	gtttcatttg	ataagttgtt	gagattctgt	3900

Sub
B2

A2
Cont

tatttgataa tattcttcgg ctgtccatcc agcatcttaa tcacttttaa actgtgattg 3960
 ttatttgcaa ctctgttctt tggaaagaat aaaagcattt tttttcactt gctaacatgc 4020
 tcacaaatgt gagagaagag tcattaaaag ctttacttac tgggtcagtg cgtcattgac 4080
 tcctttctgt gttttgcccc ataaattaat aaaagaccaa aaaaaaaaaa aaaaaaaaaa 4140
 aaaaaaa 4147

<210> 3
 <211> 4175
 <212> DNA
 <213> Mus musculus

<220>
 <223> cDNA sequence of mouse G-gamma 12 protein subunit,
 variant 2

<400> 3
 gcagcggcgg cggcggcgac gacggcgaag agttcatatg ggaaggactt tgggggtgagc 60
 atcttctcta tttccagctg gcttttctga ttcacccac catttaaaac ctggaggcac 120
 tgggcccacac aaagccttgc tgattttcag aaagaagact catcaaagat gtccagcaag 180
 acggcaagca ccaacagcat agcccaagcc aggagaactg tgcagcagct gagattggaa 240
 gcctccatcg aaagaataaa ggtctcaaaa gcatcagcag acctgatgtc atactgtgag 300
 gagcatgccc ggagcgaccc cctgctgatg ggcataccga cctcagaaaa cccgttcaag 360
 gataagaaga cctgcatcat cttatagtgg accaggaagc gccccttgcc tcttaacgca 420
 aaccacagca gcaacctgaa gggattcctt cagcttacct ggtaaccaca gctagtaact 480
 aaaacacctt tctctcgga taatagacc tgaagtctct ctttttcaag ttgtcctttc 540
 ttcacctttt actgatttaa tacagaataa caatcttatt ttctatttga taactatggg 600
 atcatattgg gttactgtat aaggaaaatg gcaggggagt tgtgggaagc ttgtctttac 660
 aaaatataat tgattaagat atgtcaagac ctacattgtc taagcaccgg caaattaaaa 720
 tgtcgagaat cacttcagtc aaaaaccttt atattctgtt cttataaatg tttgtgccaa 780
 cctatatccc atgtaaggga tctggggagg aggcattgtg ctacaacct acctttttgc 840
 actatgggca ctaaccaccc tgaaacttcc tgcggtagct cctcccttc agagttacat 900
 cattatcttg actctgtgta ggtaaatttc cgtgaaattt ttgtacaaaa aaaaggtaat 960
 gaaagaacgt tgcaagatc atctgcatta taatgagttg atgctgttct cactcctctc 1020
 ttggaattgt gctggccctt tagtctacaa taaactgtgc caattaaaaa cctaaggcta 1080
 aaactgaaag ccttttgatg ggggtotaa tcatatcagt catttgaggc tctctgatcc 1140
 tgaggctaag aaaggggaag agaccctcag gaggcagctt ccaactccagg gctcttgatc 1200
 tctgctggat tgggggtggc cacctcagaa acttccaccc tcatgactgg aatggaagag 1260
 gggaccgaga gcctcacaat ctcgagagag gaggagaaat tcttaaaaac agctgctctc 1320
 ctgcgcccag cttcacagge agccctgccc ctttctcctc accagcatgg tacctgccct 1380
 tactgctaga gcagctgctt gtagagggac attcctcctt tcccagtttt aactgggtgga 1440
 ccacagtggg gggaaaaaca ttcaagcgt ataaagacac ttgggctctt tgcagatgcc 1500
 tatacttcca acactaccat gtccacaaac caccctgggg gagggccctt ccaaagggag 1560
 gcttgctagt ttcagcgtct agcagttggg tccctcactt tactccaatt gtgaaaatag 1620
 cccacgtacc ctgcagtggt ccagtaggga tcccagagge acataacca gaaaggattt 1680
 tgactttgtc acagtgacta tttaaaataa tctattcgaa gtccaaacca aacacaaagc 1740
 ctgtgatatt ttaggttatt aaggtaactg ctaatgaagg attttaaaaa gtgtcctcaa 1800
 aaaggactta gccccgggag ttgtttataa aatttcccc acttggtatc agtgtgcact 1860
 aaaagaaaat gtattttaat atctaagtc tgggctctga gcgtcatgct tcttggtggt 1920
 aaacatgcag tctgttctt aagtgactca gaggcatcag aatttctcca cgttaccat 1980
 ctgcttggca ctcggaactg agcgtgtgaa atccatagcg ctgcccacaa cctgttctca 2040
 ctgcttagct cccagctgga ttaaagacac ctgctcagge gggagagaga gagagagagc 2100
 gagcttttac cttgaaaaag gtaaagatgg aaatgtacac caaaaaagac aatttttaca 2160
 tttaatggaa cattcttttt ttttacaagt atatttttct actgatagtt tcagaacact 2220
 aatcttatat tcaacttaat cttaaacatg tttcttttaa tattttataag gcaatttatt 2280
 acagaatatt ttcattgcaat catgtgcaca ttattggtag caaacatagt atattcttta 2340
 gtacttttagc atatttttgt taaaataact ttaatggtaa gaaatgaact tgagggtcca 2400
 ggaggttttg ttgccttttc attgattaga gacaataaat atcttgtaac ttcctaacca 2460
 gatctgagct gtgctcacia taataataat gaaatcagat tctttgatgc tggactcagg 2520
 agggaaatca ttagccaact gttgacttac ttatagctag atgtctatgt gagaaagtat 2580
 aatatatata tatacacata tatatgacat gtaagagtca cttttattta tctgtctttg 2640

Full
B2
Q2
Cont

```

ttcacttatg aagccggtaa ctgcagcagt atgttggtga tgtcatgatg cacagaagtc 2700
ccatgtggag tgtttttccc acactgacaa cttggcctcc tttctgtgtg ttcagtctgt 2760
tgtctgaact aacactcccg cgagcactat actctttata ctctgatccc cctagtccat 2820
cttaaatttg tctgtggccc tggcaagata gcgtacacaa gattccatga ctccagagca 2880
tcttgaagaa acatacatat tttgaaagag gggaaatgta gcagatagtt cacaagctgc 2940
gggttctagc taaatatccc atttctttga aatcatgttt ctaaattctt taccatcaga 3000
aagaaaagga gtgtcataca ctttcaaggg aaggcttggt ctgcgttttc tgtgtttgga 3060
ttatttttat actttgctga tctttaagct atccatgggg gaaattttat accaacgagt 3120
taataattct cattcatcgt ttacacaatg taacatgtgt catactgggg ccagcgagat 3180
ggctcagtag gtaaagggtg ttgatgctaa gcccggcagc ctgtgtttca tctacaggat 3240
gcacaacata aaagaaaaga tctgattccc acaggttctc ttctgacctc cacacacaca 3300
cactaaaata acatttaaaa atatgtgcca aattatattt gttcgggtgc caccttccac 3360
cagcttacca ctacggtaga actgtcaaat tcatctccct gaatttgtct taaaggggtg 3420
tccatgcaca ggcccaagag tcacctccaa tgaaataaat gtaatactga agtatgccat 3480
gatgtttggt gttttctttc atcgtaagcc tgtaagcagg aaaaatacgt caaatcagat 3540
agaatagagc atttaccagt ggtcgatggc ctggtcagtc ctgtgccggg tgacttagga 3600
ccaggcacgt cagctctctg agcctccctc tcccttggtg tcacaaggga atagaagcag 3660
aagaagctga gagcctccct attcccagat gccctgggtg aatgacctgc ctctctgccg 3720
tttctgccaa cgtgttggtg ctataagctg cttcaaatac cagtttgtct gtagtgtgta 3780
ctcaccta at cacttggtat ccagtgcctg ttctaggttt atggacttaa ctatttctgt 3840
gatgtttcat ttttagccat gttactcct aacacatatt ctcttatgtc tcagtaaaagt 3900
ttcatttgat aagttgttga gattctgtta tttgataata ttcttcggct gtccatccag 3960
catcttaate actttaaaac tgtgattggt atttgcaact ctgttctttg gaaagaataa 4020
aagcattttt tttcacttgc taacatgctc acaaatgtga gagaagagtc attaaaagct 4080
ttacttactg ggtcagtcgc tcattgactc ctttctgtgt tttgcccaat aaattaataa 4140
aagacaaaaa aaaaaaaaaa aaaaaaaaaa aaaaaa 4175

```

<210> 4
 <211> 72
 <212> PRT
 <213> Homo sapiens

<220>
 <223> Amino acid sequence of human G-gamma 12 protein subunit

<400> 4
 Met Ser Ser Lys Thr Ala Ser Thr Asn Asn Ile Ala Gln Ala Arg Arg
 1 5 10 15
 Thr Val Gln Gln Leu Arg Leu Glu Ala Ser Ile Glu Arg Ile Lys Val
 20 25 30
 Ser Lys Ala Ser Ala Asp Leu Met Ser Tyr Cys Glu Glu His Ala Arg
 35 40 45
 Ser Asp Pro Leu Leu Ile Gly Ile Pro Thr Ser Glu Asn Pro Phe Lys
 50 55 60
 Asp Lys Lys Thr Cys Ile Ile Leu
 65 70

<210> 5
<211> 8
<212> PRT
<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: General
epitope tag

<400> 5

Asp Tyr Lys Asp Asp Asp Asp Lys
1 5